



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 29 2010

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

Mr. David Levenstein, EIS Document Manager
U.S. Department of Energy
Draft Mercury Storage EIS Comments
P.O. Box 2612
Germantown, MD 20874

Dear Mr. Levenstein:

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act, the Environmental Protection Agency (EPA) has reviewed the Department of Energy's (DOE) Draft Environmental Impact Statement (EIS) for the Long-Term Management and Storage of Elemental Mercury (CEQ # 20100022). Our general comments are highlighted below with detailed comments enclosed for your consideration.

The Mercury Export Ban Act of 2008 amends Section 6 of the Toxic Substances Control Act to prohibit, effective October 14, 2008, any Federal agency from conveying, selling, or distributing any elemental mercury under its control or jurisdiction. It also prohibits the export of elemental mercury from the United States (US) effective January 1, 2013. For these reasons, DOE must identify a facility or facilities where mercury can be safely and securely stored.

The draft EIS analyzes the potential environmental, human health, and socioeconomic impacts of elemental mercury storage as mandated by Section 5 of the Act at seven candidate locations: Grand Junction Disposal Site near Grand Junction, Colorado; Hanford Site near Richland, Washington; Hawthorne Army Depot near Hawthorne, Nevada; Idaho National Laboratory near Idaho Falls, Idaho; Kansas City Plant in Kansas City, Missouri; Savannah River Site near Aiken, South Carolina; and Waste Control Specialists (WCS), LLC, near Andrews Texas. DOE's preferred alternative for storage is a combination of an existing facility and a new facility at WCS. WCS owns and commercially operates a 541-hectare (1,338-acre) site for the treatment, storage, and landfill disposal of various hazardous and radioactive wastes. This site is located approximately 50 kilometers (31 miles) west of Andrews, Texas, and 13 kilometers (8 miles) east of Eunice, New Mexico.

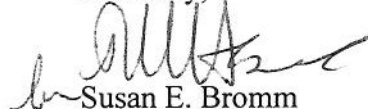
EPA requests clarification regarding the discussion of the human health and ecological risk assessment analysis that is contained in Appendix D of the draft EIS. This is particularly important in the discussions on the health effect reference values. We believe that the selection of the most appropriate values for this EIS should be revisited, especially in extrapolation of existing values to fill gaps in values desired for this application (i.e., use of the AEGL-2 divided by 10 as a surrogate for an AEGL-1). DOE has developed Protective Action Criteria that uses a modified AEGL-2 for severity level one for acute inhalation of elemental mercury. Instead EPA recommends these criteria include TEEL-0. TEELs should be used when AEGL or ERPG values are not available.

EPA believes that the current environment justice sections do not fully analyze the environmental impacts to minority and low income populations. Regarding the unit for geographic analysis, the draft EIS applies the local population statistics for determination of disproportionately. Because the EIS evaluates the alternatives at the national level, we recommend that the final EIS apply the national statistics as the appropriate unit. The geographic unit of comparison indicated that 88 percent of the total minority population in the three county areas of WCS is Hispanic. Thus, compared to the national statistic (15.4 percent for Hispanic/Latino population), the region of influence does include a population that is disproportionately minority. For this reason EPA requests that the final EIS fully describe/evaluate the economic, social, natural or physical environmental effects on minority, low-income, and susceptible populations. This analysis should also include an analysis of transportation, accidents, spill and emissions of mercury, and cumulative effects. Finally, given the substantial percentage of persons with "language other than English" in the area surrounding the preferred site, EPA recommends that DOE identify measures/materials used to accommodate the Hispanic population.

Based on the above issues we have rated the draft Lack of Objection (LO), (see enclosed "Summary of EPA Rating System"). However, as indicated via the comments there are some areas/issues where we request more clarification.

We appreciate the opportunity to review and comment on this document and look forward to reviewing the final EIS. In addition we are available to assist DOE with both the ecological risk assessment analysis and the environmental justice evaluation and analysis. If you have any further questions you may contact me at (202) 564-5400. You may also call my staff point of contact, Marthea Rountree. She can be reached at (202) 564-7141.

Sincerely,



Susan E. Bromm
Director
Office of Federal Activities

Enclosures (2): Detailed Comments
Summary of EPA Rating System

Long-Term Management and Storage of Elemental Mercury
Draft Environmental Impact Statement
Detailed Comments

General Concerns

- 1) The legislation requires DOE to “*designate a facility or facilities of the Department of Energy*” for the purpose of long-term management and storage of elemental mercury generated within the United States. However, DOE has identified and chosen the preferred alternative of a privately own facility. The draft EIS does not offer an explanation as to why DOE believes that a private facility can be selected as the designated storage facility. EPA recommends that the final EIS provide an explanation for the consideration of a private facility.
- 2) The closure section of draft EIS includes the statement: “*Because the shipment of wastes resulting from closure should be relatively limited to a few truck trips, impacts on traffic and transportation are expected to be negligible.*” This statement appears to only recognize the waste that may be generated from decontamination of the storage facility, but does not seem to address the volume (tons) of elemental mercury stored at the facility and that will necessarily need to be moved due to closure. The account for this volume of mercury is not clear. EPA recommends that the final EIS clarify the volume of mercury and identify the potential risks, if any that this move would present.
- 3) The draft EIS discusses importing elemental mercury from U.S. – owned mines in Peru through New York City for long-term storage. Section 5 of the Mercury Ban Act requires the designation of a facility or facilities “*for the purpose of long-term management and storage of elemental mercury generated within the United States.*” Since DOE is considering imported mercury from Peru, EPA recommends that the final EIS provide additional information as to whether or not DOE will consider storing other imported elemental mercury.

Appendix D (Human Health and Ecological Risk Assessment Analysis)

- 1) Throughout this appendix the cited source of the reference values discussed was the Graphical Arrays of Reference Values document. In the initial discussion, it is appropriate to mention this document as a secondary reference and resource for comparing the available reference values for exposures to elemental mercury; however, when citing a specific value (e.g., the reference concentration (RfC)) it is most appropriate to use the primary reference in this EIS. EPA recommends that when citing the source for a health effect reference value, the primary citation for the values be used in the EIS -- the correct citations are provided in the Graphical Arrays of Reference Values document, beginning on page 139.
- 2) EPA believes that the choice of using one-tenth of the acute exposure guideline level (AEGL)-2 as a surrogate for an AEGL-1 should be revisited for Table D-2. We

recommend that DOE use the Protective Action Criteria that was developed by DOE (http://www.hss.energy.gov/healthsafety/wshp/chem_safety/teel.html), and include the use of the Temporary Emergency Exposure Levels (TEELs) when an appropriate AEGL or Emergency Response Planning Guideline (ERPG) is not available. TEELs are available for elemental mercury at both the TEEL-1 and TEEL-0 levels -- 300 and 25 micrograms/m³, respectively. In view of the desire to protect both populations to a similar level, EPA suggests that the TEEL-0 level may be more appropriate as this is the same concentration as the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit level/time-weight average (TLV-TWA), and the TEEL-1 is set at three times the OSHA permissible exposure limit. As noted in later comments, the TEELs, as well as the AEGLs and ERPGs were designed for "once-in-a-lifetime" exposure scenarios that assume negligible background exposures and may not be appropriate for these facilities.

Another alternative, and one that may be more appropriate, is the use of the acute (one-hour) California Reference Exposure Level, which is also cited in the Graphical Arrays document.

Additionally, the comment on the Inhalation Severity Level I row of Table D-2 should strike the first phrase "*Potential for minor irritation.*" If there was evidence for minor irritation from exposure to elemental mercury, an AEGL-1 would have been developed.

3) The draft EIS makes the following statement on page D-11.

"In principle, it would be possible to develop an SL scheme tied to the IDLH, similar to that in Table D-2. Unfortunately, there are no IDLH equivalents of the three AEGLs. However, the IDLH approximately equals AEGL-3 for a 30-minute exposure (11 mg/m³; see Table D-19). It therefore seems reasonable to adopt the same acute-inhalation SLs for workers as for members of the public. One could make a case that this is conservative because workers are generally expected to be healthy while the AEGLs are crafted to include susceptible members of the public. Therefore, Table D-2 applies to workers as well as to the public."

- a) The immediately dangerous to life or health (IDLH) is most similar to an AEGL-3 as is noted correctly in the text; however, there are other acute occupational values that are more consistent with an AEGL-1 definition, namely the National Institute for Occupational Safety and Health (NIOSH) ceiling values. EPA recommends that DOE revisit this text after consideration of the other comments provided in this letter.
- b) AEGLs were developed with an assumption of an "once-in-a-lifetime" exposure scenario. In order to provide adequate protection for the combined populations of workers and the public, and to avoid a potential risk communication problem (i.e., more stringent protections for on-site workers than for public outside the fence line), EPA recommends other occupational values (i.e., ACGIH TLV-TWA) or TEEL-0 values be used in Table D-2 and be reflected in this text. In addition, as noted later in

Appendix D, slow leaks with extended durations are expected at a relatively high frequency leading to the potential for there to be high background ambient levels of elemental mercury near these facilities (some reported to be in excess of the RfC – see next comment). Considering such a high background from a persistent bioaccumulative toxin like mercury would likely preclude the use of values developed on a presumption of a rare, “once-in-a-lifetime” exposure in this type of situation.

- 4) The following statement is made on page D-51: *“The ambient air concentration downwind of the storage building has been continuously monitored since 1986 and averages 3.60×10^{-4} mg/m³, again well below EPA’s RfC of 3.00×10^{-4} mg/m³.”* The monitored average reported may be a typographical error. However if it is not, the average is above the RfC. In addition, at the end of the preceding paragraph the RfC is incorrectly reported to be 3.0×10^{-6} mg/m³. The value for the monitored average downwind concentration should be verified and if needed the comparison to the RfC should be corrected. The final EIS should consistently report the correct RfC value which is 3.0×10^{-4} mg/m³.

Environmental Justice

- 1) In Table 3 *Comparison of Impacts, Summary and Guide for Stakeholders*, the draft EIS states that with respect to environmental justice for the preferred alternative site, WCS, there are *“No disproportionate impacts on low income and/or minority individuals.”* The basis for this conclusion is the application of the population statistic for the counties and states which are included in the region of influence (ROI) as the unit for geographic analysis. However, the draft EIS also indicates that within the ROI, the 16 kilometer radius includes a 40 percent minority, and the 3.2 kilometer radius includes 27 percent minority. The draft EIS uses as its geographic unit for analysis a three county area (which is 44 percent minority) and a two state area (which is 48 percent minority), which is the basis for its conclusion. CEQ guidance provides that the selection of the appropriate unit of geographic analysis should “not artificially dilute or inflate the affected minority population.” Thus, in this case, use of a local and state statistic diluted the affected minority population. Since the EIS involves a national siting process involving eight different states, in order to ensure national consistency, EPA requests that the final EIS apply the national population statistic (15.4 percent) as the appropriate unit for geographic analysis to determine whether the affected area includes minority populations or low-income populations.
- 2) EPA requests that the final EIS fully describe the interrelated economic, social, natural or physical environmental effects in addition to the disproportionate impact of a federal action on minority individuals and low-income individuals. The Presidential Memorandum accompanying Executive Order (EO) 12989 directs federal agencies to analyze *“the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities,”* regardless of disproportionality. In addition, EO 12898 invokes

consideration of disproportionately as it relates to “adverse human health or environmental effects” on minority populations and low-income populations; it does not apply disproportionately to the population itself. To fully describe the impact on the human environment of the Federal action on minority populations and low income populations residing within the affected area, the EIS should provide baseline information on the vulnerabilities that exist within minority populations and low-income populations. Based on this analysis, the EIS should determine whether there are risks to vulnerable populations that can be eliminated through mitigation measures, and describe those measures if appropriate.

- 3) Environmental justice analyses within the area of review for the different alternative sites are not consistent. For example, analysis of transportation and accidents impacting minority and low income populations varies. While the preferred alternative WCS site used 1.6 miles as the “potentially impacted area”, the Savannah River site used the area along a potential transportation route (e.g. US Route 278) leading to the site as its area of analysis. The Kansas City site used a location at or near the entrance of the facility. EPA believes that analysis within the potentially impacted areas be consistent between the alternatives.
- 4) The draft EIS describes the minority and low income population statistics of the ROI and geographic unit of comparison. However, because DOE’s evaluation determined that there was no disproportionate impact on low income and/or minority individuals, the draft EIS does not analyze the implications of minority and low-income status of the population as they pertain to public participation, mitigation and cumulative effects. As previously indicated, EPA believes that WCS does include a population that is disproportionately minority. For this reason we request that DOE analyze these areas accordingly. In addition, the draft EIS identifies three counties within WCS’s ROI as Health Professional Shortage Areas (HPSAs) as designated by the U.S. Health and Human Services. Andrews County, Texas has been designated as a primary medical care HPSA for low-income populations. Gaines County, Texas and Leas County, New Mexico are both designated as primary medical care, dental, and mental health HPSAs. These HPSAs should also be a consideration in the analysis. Particularly with regard to accidents, spills, and emission from operations (including venting of mercury vapors) on populations that lack access to health care. Because 30 percent of the population is under the age of 18 particular attention should be made to children.
- 5) The public involvement discussion of the draft EIS describes the nature of the process used to involve the public in the scoping process. This description does not indicate that translation of materials and meetings into Spanish has been provided. The importance of this translation is particularly important due to the fact that for the preferred alternative site, WCS, the percentage of persons with “language other than English” is over 30%. Transparency and meaningful participation should be provided for minority populations in the affected area who are non-English speaking. EPA recommends that DOE expand the nature of public participation for persons who speak a language other than English. This should include Spanish translation of draft EIS materials and meetings.